REMARKS

Initial Interview

The Applicant notes that on January 2, 2003 the Applicant and the Examiner had an initial teleconference to confirm that Paper No. 8 is a Non-Final Office Action. (See Status 2a under Office Action Summary for Paper No. 8)

DRAWINGS

The Applicant notes that the Examiner has accepted the original drawings as informal drawings. The Applicant will submit formal drawings when the application is allowed.

CLAIM OBJECTIONS

Claims 2 and 3 are objected to based on an informality, and although the Applicant disagrees based on the original specification, the Applicant nevertheless herein amends claims 2 and 3 to conform to the Examiner's suggested correction.

35 USC § 102

Claims 1-3, 10-14, 16 and 17 are rejected under 35 USC § 102(e) as being anticipated by Inose (US 6,385,407). The Applicant respectfully disagrees.

Claim 1 recites "a smart container assembly comprising: a) a hermetically sealed storage cavity; b) a monitoring assembly positioned outside of the hermetically sealed storage cavity and including 1) a sensing mechanism; 2) an I/O interface; and 3) a recording mechanism electrically coupled to both the sensing mechanism and the I/O interface for recording data obtained from both the sensing mechanism and the I/O interface." According to the claim, the storage cavity is

hermetically sealed and the monitoring assembly, that includes the sensing mechanism, the I/O interface and the recording mechanism, are located outside the hermetically sealed storage container.

Inose discloses a container and a management system that includes a storage portion to accommodate an expendable product to be used by an apparatus; and a memory to store identification information that can be read only by an external device. The expendable product is contained with a container that is not hermetically sealed. The memory component is hermetically sealed, along with an antenna apparatus, to be a part of the expendable product packaging and yet to be protected from the expendable product (in this case, ink). Furthermore, there does not appear to be any I/O device or component in the Inose device. There is no information that is inputted into the memory component after it is hermetically sealed in the packaging – it only emits or transmits information to a read/write component.

In addition, Inose does not teach all of the claimed elements of the present application. "Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983) (citing *Soundscriber Corp. v. United States*, 360 F.2d 954, 148 USPQ 298, 301 (Ct. Cl.), *adopted*, 149 USPQ 640 (Ct. Cl. 1966)) Further, the prior art reference must disclose each element of the claimed invention "**arranged as in the claim**". *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)(citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)). Inose does not teach, suggest or motivate one of ordinary skill in the art of container design to produce a hermetically sealed storage cavity and a monitoring assembly that is not hermetically sealed and that is outside of the storage cavity, wherein the monitoring assembly includes a sensing mechanism, an I/O interface, and a recording mechanism.

Therefore, claim 1 of the present application is not anticipated by Inose. Furthermore, claims 2-3, 10-14, 16 and 17 are not anticipated by Inose by virtue of their dependence on claim 1 and by amendments presented herein.

35 USC § 103

Claims 4-9 and 15 are rejected under 35 USC § 103(a) as being obvious over Inose (US 6,385,407) in view of Besprozvanny et al (US 5,627,523). The Applicant respectfully disagrees.

Claim 1 recites "a smart container assembly comprising: a) a hermetically sealed storage cavity; b) a monitoring assembly positioned outside of the hermetically sealed storage cavity and including 1) a sensing mechanism; 2) an I/O interface; and 3) a recording mechanism electrically coupled to both the sensing mechanism and the I/O interface for recording data obtained from both the sensing mechanism and the I/O interface." According to the claim, the storage cavity is hermetically sealed and the monitoring assembly, that includes the sensing mechanism, the I/O interface and the recording mechanism, are located outside the hermetically sealed storage container.

Claim 9 recites "a smart container assembly comprising: a) a storage container that includes a monitoring assembly receiving cavity, a dip tube orifice, an outer wall surrounding and defining a storage cavity; b) a dip tube assembly hermetically sealed to the perimeter of the dip tube orifice; c) a monitoring assembly positioned and removably retained within the monitoring assembly receiving cavity; and d) a dip tube seal cap positioned within and hermetically sealed to an end of the dip tube assembly, the dip tube assembly and seal cap hermetically sealing the storage cavity."

Inose discloses a container and a management system that includes a storage portion to accommodate an expendable product to be used by an apparatus; and a memory to store identification information that can be read only by an external device. The expendable product is contained with a container that is not hermetically sealed. The memory component is hermetically sealed, along with an antenna apparatus, to be a part of the expendable product packaging and yet to be protected from the expendable product (in this case, ink). Furthermore, there does not appear to be any I/O device or component in the Inose device. There is no information that is inputted into the memory component after it is hermetically sealed in the packaging – it only emits or transmits

information to a read/write component. Inose does not teach, suggest or motivate one of ordinary skill in the art of container design to produce a hermetically sealed storage cavity and a monitoring assembly that is not hermetically sealed and that is outside of the storage cavity, wherein the monitoring assembly includes a sensing mechanism, an I/O interface, and a recording mechanism. Therefore, based on a fair reading of Inose, one of ordinary skill in the art would not be able to conceive of or design the smart container and methods contained in the present application.

Besprozvanny et al. (US 5,627,523) teaches a liquid level sensor device, particularly adapted for use with corrosive and hazardous liquids, such as oil, for measuring the liquid level in a storage tank or vessel. Besprozvanny does not teach, suggest or motivate one of ordinary skill in the art of container design to produce a hermetically sealed storage cavity and a monitoring assembly that is not hermetically sealed and that is outside of the storage cavity, wherein the monitoring assembly includes a sensing mechanism, an I/O interface, and a recording mechanism.

Neither the Inose nor the Besprozvanny references, alone or in combination, teach, suggest or motivate one of ordinary skill in the art of container design to produce a hermetically sealed storage cavity and a monitoring assembly that is not hermetically sealed and that is outside of the storage cavity, wherein the monitoring assembly includes a sensing mechanism, an I/O interface, and a recording mechanism. Therefore, claims 1 and 9 of the present application are allowable as not being obvious in view of Inose and/or Besprozvanny. Furthermore, claims 4-8 and 15 are also allowable as not being obvious in view Inose and/or Besprozvanny by virtue of their dependence on independent claims 1 and 9.

REQUEST FOR ALLOWANCE

Claims 1-17 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,

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MARKED UP COPY OF CLAIMS

1. A smart container assembly comprising:

a hermetically sealed storage cavity;

a monitoring assembly positioned outside of the hermetically sealed storage cavity and including

a sensing mechanism;

an I/O interface;

and a recording mechanism electrically coupled to both the sensing mechanism and the I/O interface for recording data obtained from both the sensing mechanism and the I/O interface.

2. (Amended) The assembly of claim 1 wherein the recording mechanism comprises at least a first [sub mechanism] sub-mechanism and a second [sub mechanism] sub-mechanism wherein the first [sub mechanism] sub-mechanism is electrically coupled to the sensing mechanism and the second [sub mechanism] sub-mechanism is electrically coupled to an input portion of the I/O interface.

3. (Amended) The assembly of claim 2 wherein the I/O interface comprises a first sub interface electrically coupled to the first [sub mechanism] sub-mechanism of the recording mechanism and a second sub interface coupled to the second [sub mechanism] sub-mechanism of the recording mechanism.

4. The assembly of claim 1 wherein the container assembly further comprises a monitoring assembly receiving cavity sized and dimensioned to receive and retain the monitoring assembly, the receiving cavity having an environment more similar to the environment of

the storage cavity than to the environment outside of the container assembly in regard to at least one condition the monitoring assembly is designed to monitor.

5. The assembly of claim 1 wherein the container assembly further comprises a monitoring assembly receiving cavity sized and dimensioned to receive and retain the monitoring assembly, the receiving cavity protruding into but being hermetically isolated from the storage cavity.

6. The assembly of claim 5 wherein the container further comprises an orifice providing an inlet into the storage cavity, a dip tube assembly retained by the orifice and extending into the storage cavity, and a seal cap, wherein the dip tube assembly and seal cap cooperate in hermetically sealing the orifice.

7. The assembly of claim 6 wherein the removal of the seal cap and/or dip tube assembly is the only way to break the hermetic seal of the storage cavity without creating a new opening into the storage cavity.

8. The assembly of claim 7 wherein the seal cap may be removed without breaking the hermetic seal between the dip tube assembly and the container, removal of the seal cap providing an outlet for any material stored in the storage cavity from the storage cavity, wherein any material flowing out of the storage cavity through the opening created by removal of the seal cap must flow through the dip tube of the dip tube assembly.

9. A smart container assembly comprising:

a storage container that includes a monitoring assembly receiving cavity, a dip tube orifice, an outer wall surrounding and defining a storage cavity;

a dip tube assembly hermetically sealed to the perimeter of the dip tube orifice;

a monitoring assembly positioned and removably retained within the monitoring assembly receiving cavity; and

a dip tube seal cap positioned within and hermetically sealed to an end of the dip tube assembly, the dip tube assembly and seal cap hermetically sealing the storage cavity.

10. (Amended) A method of transporting a material comprising:

providing [a] the smart container assembly of claim 1;

placing the material to be transported within the container assembly;

transporting the container assembly containing the material to be transported; and

electronically querying the container assembly for information related to the contents or transportation of the container assembly.

11. The method of claim 10 further comprising electronically recording, prior to transportation of the container assembly, data relating to the material to be transported within the container assembly.

12. The method of claim 11 wherein electronically querying the container results in the container providing at least some of the electronically recorded data relating to the material transported within the container assembly.

13. The method of claim 10 wherein electronically querying the container results in the container providing information relating to the conditions the material was subjected to during transportation.

14. The method of claim 10 further comprising, after transportation of the container assembly, coupling the container to a processing unit programmed to query the container for information relating to both the material transported within the container assembly and the conditions the material was subjected to during the transportation, and also programmed to use the material within the container assembly only if the contents and handling of the container assembly meet a standard programmed into or obtainable by the processing unit.

15. The method of claim 14 wherein placing the material within the container assembly comprises at least partially hermetically sealing an opening into a storage cavity containing the material with a dip tube assembly extending into the storage cavity.

16. The method of claim 15 wherein the material placed within the container assembly is a spin-on material.

17. The method of claim 16 wherein the material placed within the container assembly is a glass or organic polymer.

CLEAN COPY OF THE CURRENT PENDING CLAIMS

1. A smart container assembly comprising:

a hermetically sealed storage cavity;

a monitoring assembly positioned outside of the hermetically sealed storage cavity and including

a sensing mechanism;

an I/O interface;

and a recording mechanism electrically coupled to both the sensing mechanism and the I/O interface for recording data obtained from both the sensing mechanism and the I/O interface.

2. (Amended) The assembly of claim 1 wherein the recording mechanism comprises at least a first sub-mechanism and a second sub-mechanism wherein the first sub-mechanism is electrically coupled to the sensing mechanism and the second sub-mechanism is electrically coupled to an input portion of the I/O interface.

3. (Amended) The assembly of claim 2 wherein the I/O interface comprises a first sub interface electrically coupled to the first sub-mechanism of the recording mechanism and a second sub interface coupled to the second sub-mechanism of the recording mechanism.

4. The assembly of claim 1 wherein the container assembly further comprises a monitoring assembly receiving cavity sized and dimensioned to receive and retain the monitoring assembly, the receiving cavity having an environment more similar to the environment of the storage cavity than to the environment outside of the container assembly in regard to at least one condition the monitoring assembly is designed to monitor.

5. The assembly of claim 1 wherein the container assembly further comprises a monitoring assembly receiving cavity sized and dimensioned to receive and retain the monitoring

assembly, the receiving cavity protruding into but being hermetically isolated from the storage cavity.

6. The assembly of claim 5 wherein the container further comprises an orifice providing an inlet into the storage cavity, a dip tube assembly retained by the orifice and extending into the storage cavity, and a seal cap, wherein the dip tube assembly and seal cap cooperate in hermetically sealing the orifice.

7. The assembly of claim 6 wherein the removal of the seal cap and/or dip tube assembly is the only way to break the hermetic seal of the storage cavity without creating a new opening into the storage cavity.

8. The assembly of claim 7 wherein the seal cap may be removed without breaking the hermetic seal between the dip tube assembly and the container, removal of the seal cap providing an outlet for any material stored in the storage cavity from the storage cavity, wherein any material flowing out of the storage cavity through the opening created by removal of the seal cap must flow through the dip tube of the dip tube assembly.

9. A smart container assembly comprising:

a storage container that includes a monitoring assembly receiving cavity, a dip tube orifice, an outer wall surrounding and defining a storage cavity;

a dip tube assembly hermetically sealed to the perimeter of the dip tube orifice;

a monitoring assembly positioned and removably retained within the monitoring assembly receiving cavity; and

a dip tube seal cap positioned within and hermetically sealed to an end of the dip tube assembly, the dip tube assembly and seal cap hermetically sealing the storage cavity.

10. (Amended) A method of transporting a material comprising:

providing the smart container assembly of claim 1;

placing the material to be transported within the container assembly;

transporting the container assembly containing the material to be transported; and

electronically querying the container assembly for information related to the contents or transportation of the container assembly.

11. The method of claim 10 further comprising electronically recording, prior to transportation of the container assembly, data relating to the material to be transported within the container assembly.

12. The method of claim 11 wherein electronically querying the container results in the container providing at least some of the electronically recorded data relating to the material transported within the container assembly.

13. The method of claim 10 wherein electronically querying the container results in the container providing information relating to the conditions the material was subjected to during transportation.

14. The method of claim 10 further comprising, after transportation of the container assembly, coupling the container to a processing unit programmed to query the container for information relating to both the material transported within the container assembly and the conditions the material was subjected to during the transportation, and also programmed to use the material within the container assembly only if the contents and handling of the container assembly meet a standard programmed into or obtainable by the processing unit.

15. The method of claim 14 wherein placing the material within the container assembly comprises at least partially hermetically sealing an opening into a storage cavity containing the material with a dip tube assembly extending into the storage cavity.

16. The method of claim 15 wherein the material placed within the container assembly is a spin-on material.

17. The method of claim 16 wherein the material placed within the container assembly is a glass or organic polymer.